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EXAMINER				
CHOI, PETER Y				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/045,391

Applicant(s)

LI ET AL.

Examiner

PETER Y. CHOI

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-12,17-19 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7-12,17-19 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 28, 2008, has been entered.

Specification

2. The disclosure is objected to because of the following informalities: Applicants have amended claim 1 to recite that the at least one ethoxylated aliphatic alcohol is of the formula $\text{CH}_3\text{CH}_2(\text{CH}_2\text{CH}_2)_{13}\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_x\text{OH}$ wherein x has an average value of 2.5. Additionally, Applicants remarks of November 28, 2008, expressly recites that the ethoxylated alcohol of claim 1 is UNITHOX 420. Although Applicants' specification does not provide for explicit support such that the claimed formula is necessarily UNITHOX 420, the Technical Release of the Petrolite Corporation (1996) provides implicit support linking UNITHOX 420 with the claimed formula. As such, the specification is required to be amended expressly reciting that UNITHOX 420 is the ethoxylated aliphatic alcohol of the formula $\text{CH}_3\text{CH}_2(\text{CH}_2\text{CH}_2)_{13}\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_x\text{OH}$ wherein x has an average value of 2.5

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 7-12, 17-19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,146,757 to Mor in view of UNITHOX Ethoxylated Alcohols Technical Release 4022.0 (herein referred to as "Technical Release 4022.0")

Regarding claims 1, 2, 7-12, 17-19, and 25, Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7 lines 65-67 and column 8 lines 1-5) useful in products such as diaper inner liners, battery cell separators and other applications (column 12 line 50 to column 13 line 54). Mor teaches that the preferred thermoplastic polymer is a polyolefin (column 9 lines 65-67) and that the polyolefin is preferably polyethylene or polypropylene (column 4 line 65 to column 5 line 8, column 5 line 65 to column 6 line 5). Mor teaches that the surface active agent, or wetting agent, is introduced into the bulk polymer resin rather than applying it to the surface of the polymer (column 14 lines 25-35). Mor teaches that incorporating the surfactant into the melt blend assists in resisting migration and transference of the surfactant (column 5 lines 45-50), and that by modifying the percentage of the wetting agent, hydrophilic, smooth fibers and nonwovens with improved textile-like feel and elongation may be formed (column 7 lines 4-62).

Mor teaches that a blend of wetting agents allows a broad range of wetting characteristics. The blend allows control over the degree of wetting and permanence which may

be obtained by varying concentrations and the ratio of the first and second wetting agents (column 14 lines 20-25). The present fibers are also useful as a blend component for other fibers whereby the thermoplastic properties as well as the wettability, softeners and lubricity of the fibers are found to be advantageous. The fibers or filaments can be in the form of a woven fabric, a non-woven fabric or a knitted (column 13 lines 25-40).

Regarding claims 1, 2, 7-12, 17-19, and 25, Mor teaches that in a preferred embodiment, a wetting agent may comprise alkoxyated fatty alcohol as a combination of an ethoxylated cetyl alcohol and an ethoxylated stearyl alcohol and preferably contains from about 2 to 10 moles of ethylene oxide condensed thereon (column 6 lines 40-45). However, Mor does not appear to specifically teach that the at least one ethoxylated aliphatic alcohol is of the formula $\text{CH}_3\text{CH}_2(\text{CH}_2\text{CH}_2)_{13}\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_x\text{OH}$ wherein x has an average value of 2.5.

Technical Release 4022.0 teaches commercially available ethoxylated aliphatic alcohols, available at the time the invention was made and suitable for use as surfactants or wetting agents, the ethoxylated aliphatic alcohols having hydrophilic and lipophilic portions, wherein the hydrophilic portion is a substantially similar ethoxylated alcohol as Mor and wherein the hydrophobic or lipophilic portion is a substantially similar aliphatic saturated hydrocarbon chain as Mor (Technical Release pages 1-9). Technical Release 4022.0 teaches that the efficiency of the hydrophilic and lipophilic portions can be controlled by varying the starting alcohol and/or the amount of ethylene oxide (Id., page 1). Technical Release 4022.0 teaches that UNITHOX ethoxylated alcohols are a novel class of nonionic surfactants derived from very long chain, linear, synthetic alcohols (Id., page 1). Technical Release 4022.0 teaches that the average chain length of the hydrocarbon portion of the molecule can be between 26 and 50 carbons (Id., page

1). Technical Release 4022.0 teaches that chemically, UNITHOX ethoxylates can be shown as $\text{CH}_3\text{CH}_2(\text{CH}_2\text{CH}_2)_x\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_y\text{OH}$ having an average x/y of 13/2.5 (Id., page 1).

Technical Release 4022.0 teaches that UNITHOX Ethoxylates can be used in a wide variety of applications such as emulsifiers/lubricants for textile processing and finishing and processing aids (Id., page 2). It would have been obvious to one of ordinary skill in the wettable polymer fiber art at the time the invention was made to form the wettable polypropylene fiber of Mor, substituting the ethoxylated fatty alcohol of Mor with UNITHOX 420, as taught by Technical Release 4022.0, motivated by the desire of forming a conventional wettable polymer fiber with a commercially available wetting agent suitable for use in textile processing and finishing and processing aids, and such a substitution of an ethoxylated fatty alcohol wetting agent for another ethoxylated fatty alcohol wetting agent yields a predictably resulting wettable polyolefin fiber to one of ordinary skill in the art.

Regarding claim 2, the prior art teaches that the polyolefin is polypropylene or polyethylene (Mor, column 4 line 65 to column 5 line 8, column 5 line 65 to column 6 line 5).

Regarding claims 7 and 8, the prior art teaches that the compounds of component (b), in total, are present from about 0.1% to about 15% by weight and from about 1% to about 7% by weight, based on the weight of the polyolefin of component (a) (Mor, column 7 lines 12-62). Additionally, it would have been obvious to one of ordinary skill in the wettable polymer art at the time the invention was made to optimize the percentage of component (b) since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In the present case, one of ordinary skill would be motivated to optimize component (b) based on the desired feel and elongation and compatibility with the polymer fiber.

Regarding claims 9 and 12, the prior art teaches a bi-component fiber comprising a polyolefin component, wherein the polyolefin component comprises a melt blend comprising components (a) and (b), and woven or nonwoven fabric comprising bi-component fibers (Mor, column 12 lines 18-29, column 13 lines 28-54).

Regarding claims 10, 11 and 17, the prior art teaches a woven or nonwoven fabric comprising polyolefin fibers or filaments according to claim 1 (Mor, column 12 lines 18-29, column 13 lines 28-54).

Regarding claim 11, the prior art teaches a woven or nonwoven fabric wherein the polyolefin is polypropylene or polyethylene (Mor, column 12 lines 18-29, column 13 lines 28-54).

Regarding claim 17, the prior art teaches an article of manufacture comprising a woven or nonwoven fabric selected from the group consisting of disposable diapers, training pants, feminine napkins, tampons, incontinence care products, wet and dry wipes, wound dressings, surgical capes, filter medial and battery separators (Mor, column 12 line 50 to column 13 line 54).

Regarding claim 18, the prior art teaches that the melt blend additionally comprises an ethoxylated aliphatic alcohol that is not of formula (Ia) (Mor, column 5 line 53 to column 6 line 45).

Regarding claim 19, the prior art teaches that the melt blend additionally comprises a 2 mole ethoxylated stearyl alcohol (Mor, column 6 lines 31-45, column 9 lines 23-58).

Regarding claim 25, the prior art teaches that the fiber or filament further comprises a stabilizer selected from the group consisting of hindered amine light stabilizers, phenolic

antioxidants, phosphites or phosphonites, hydroxylamines, benzofuranones and hydroxyphenylbenzotriazole, hydroxybenzophenone or tris-aryls-s-triazine UV absorbers (Mor, column 10 lines 25-53).

Response to Arguments

5. Applicants' arguments filed November 28, 2008 have been fully considered but they are not persuasive. Applicants argue that the alkoxyated fatty alcohol of Mor has an alkyl group of from 8 to 22 carbon atoms, whereas the present ethoxylated alcohol compounds contain an alkyl group of 30 carbons. Examiner respectfully disagrees. It should be noted that the rejection is based on the combination of Mor in view of Technical Release 4022.0. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. Since the rejection is based on the prior art combination, Applicants' arguments are not commensurate in scope with the present rejection.

Additionally, as set forth above, Mor is not relied on to teach that the ethoxylated alcohol compounds contain an alkyl group of 30 carbons and Applicants' characterization of Mor does not appear to be accurate. Mor teaches that the alkoxyated fatty alcohol has from "about 8 to about 22 carbon atoms" and therefore, Mor does not limit the alkoxyated fatty alcohol to only those from 8 to 22 carbon atoms, as Applicants argue. As set forth above, Technical Release 4022.0 is relied on to teach commercially available ethoxylated aliphatic alcohols, available at the time the invention was made and suitable for use as surfactants, wherein the ethoxylated aliphatic alcohols have hydrophilic and lipophilic portions, wherein the hydrophilic portion is a substantially similar ethoxylated alcohol as Mor and wherein the hydrophobic or lipophilic

portion is a substantially similar aliphatic saturated hydrocarbon chain as Mor. Based on the totality of the prior art combination, it would have been obvious to one of ordinary skill in the wettable polymer fiber art at the time the invention was made to form the wettable polypropylene fiber of Mor, substituting the ethoxylated fatty alcohol of Mor with UNITHOX 420, as taught by Technical Release 4022.0, motivated by the desire of forming a conventional wettable polymer fiber with a commercially available wetting agent suitable for use in textile processing and finishing and processing aids, and such a substitution of an ethoxylated fatty alcohol wetting agent for another ethoxylated fatty alcohol wetting agent yields a predictably resulting wettable polyolefin fiber to one of ordinary skill in the art.

Applicants argue that the performance of UNITHOX 420 as a melt additive to improve the wettability of polyolefin fibers is unexpected and is not predictable. In support, Applicants reiterate the two Rule 132 Declarations of October 26, 2006, and May 7, 2007, respectively. Specifically, Applicants argue that UNITHOX 420 when compared to UNITHOX 480, UNITHOX 750, and UNITHOX 550, exhibits various water absorption and liquid absorption capacities. Regarding Applicants' arguments, Examiner respectfully disagrees. It should be noted that different compounds will invariably produce different results. However, Applicants have not shown how the results are unexpected or not predictable. For example, each of UNITHOX 420, UNITHOX 480, UNITHOX 750, and UNITHOX 550 each comprise various hydrophilic and lipophilic portions. However, Technical Release 4022.0 specifically recites that the relative efficiency of the hydrophilic and lipophilic portion of the molecule can be controlled by varying the starting alcohol and/or the amount of ethylene oxide (Technical Release 4022.0, page 1). Therefore, since each of the UNITHOX compounds comprise varying combinations of

hydrophilic and lipophilic portions, the UNITHOX compounds will invariably comprise varying characteristics and properties. Additionally, Applicants are not claiming water absorption or liquid absorption capacity. Therefore, Applicants' arguments are not commensurate in scope with the claimed invention. Additionally, Applicants have not shown that the prior art combination is necessarily differentiated from the claimed invention, as Applicants' Rule 132 Declarations do not compare the claimed invention to the closest prior art. Since the prior art combination teaches an identical commercially available wetting agent, the prior art combination appears to render obvious the claimed invention.

Additionally, mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979). The fact that Applicants have recognized another advantage which would naturally flow from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicants argue that the present claims are indeed aimed at novel and non-obvious wettable polyolefin compositions to which water absorption and wettability may be attributed. Although Examiner agrees that the present claims are directed to wettable polyolefin compositions to which water absorption and wettability may be attributed, the prior art combination teaches substantially similar and/or identical wettable polyolefin compositions to which water absorption and wettability may be attributed, since incorporating surfactants such as alkoxylated fatty alcohols into polypropylene or thermoplastic fibers, was known to predictably

form a composite with high permanence of wettability (Mor, column 12 lines 51-65), including very good wettability with water (Id., column 17 lines 37-41).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER Y. CHOI whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter Y Choi /PYC/
Examiner, Art Unit 1794

/Andrew T Piziali/
Primary Examiner, Art Unit 1794